

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) An active implantable medical device, comprising:

circuit means for detecting spontaneous atrial and ventricular events;

circuit means for providing ventricular and atrial stimulation; and

means for automatic mode commutation;

means for suspecting a loss of an atrial detection or capture, comprising means for determining a sequence of events having one or more of provided stimulations and detected ventricular and atrial events, and means for analyzing said sequence to detect a condition indicative of a suspected loss of atrial detection, wherein said analyzing means further comprises means for determining an occurrence of a ventricular extrasystole with a coupling interval that is greater than a programmed value, wherein said condition corresponds to one of said ventricular extrasystole being detected in the presence of said greater coupling interval and an occurrence of an atrial detection consecutive to an atrial stimulation over a predetermined number of successive cardiac cycles; and

means for preventing avoiding inappropriate switching to a DDD pacing mode when a condition indicative of a suspected loss of atrial detection is detected, comprising increasing means for increasing sensitivity after suspecting the loss of an atrial detection or capture.

2. (Original) The device of claim 1, wherein the detecting circuit means further comprises an initial atrial detection sensitivity, and the suspecting means further comprises means for increasing the atrial detection sensitivity in response to said detected condition.

3. (Original) The device of claim 2, further comprising means for stopping the increase of detection sensitivity in response to a detected return of normal atrial detection.

4. (Original) The device of claim 2, further comprising means for stopping the increase of detection sensitivity in response to a detected return to atrial stimulation with a normal delay between atrial stimulation and ventricular detection.

5. (Original) The device of claim 2, wherein the suspecting means further comprises means for restoring the atrial sensitivity to said initial atrial detection sensitivity in response to a detected atrial stimulation inducing a nonpathological delay between atrial stimulation and ventricular detection.

6. (Original) The device of claim 2, further comprising means for periodically decreasing the atrial detection sensitivity in response to the atrial detection sensitivity being greater than the initial atrial detection sensitivity.

7. (Original) The device of claim 6 further comprising means for inhibiting the periodically decreasing means from decreasing the atrial detection sensitivity in response to said increasing means increasing the atrial detection sensitivity during three consecutive days.

8. (Original) The device of claim 2, wherein the suspecting means further comprises means for detecting a delay between an atrial stimulation and a ventricular detection, and

detecting a reduction of said delay below a given limit, wherein said condition further comprises said detected reduction.

9. (Original) The device of claim 8, further comprising means for stopping the increase of detection sensitivity in response to said detected delay corresponding to a normal delay.

10. (Original) The device of claim 8, wherein the suspecting means further comprises means for restoring the atrial sensitivity to said initial atrial detection sensitivity in response to a detected atrial stimulation inducing a nonpathological delay between atrial stimulation and ventricular detection.

11. (Original) The device of claim 2 wherein the suspecting means further comprises means for detecting a delay between an atrial event and a ventricular detection, and a passage from an atrial detection to an atrial stimulation with a concomitant reduction of said detected delay below a given limit, wherein said condition further comprises said passage.

12. (Original) The device of claim 11, further comprising means for stopping the increase of detection sensitivity in response to a detected return to atrial stimulation with a normal delay between atrial stimulation and ventricular detection.

13. (Original) The device of claim 11, wherein the suspecting means further comprises means for restoring the atrial sensitivity to said initial atrial detection sensitivity in response to a detected atrial stimulation inducing a nonpathological delay between atrial stimulation and ventricular detection.

14. (Currently Amended) An active implantable medical device, comprising:

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circuit means for detecting spontaneous atrial and ventricular events;

circuit means for providing ventricular and atrial stimulation;

means for automatic mode commutation;

means for suspecting loss of an atrial detection, comprising means for determining a sequence of events having one or more of provided stimulations and detected ventricular and atrial events, and means for analyzing said sequence to detect a condition indicative of a suspected loss of atrial detection, wherein said analyzing means further comprises means for detecting a delay between an atrial stimulation and a ventricular detection and means for detecting a reduction of said delay below a given limit, wherein said condition further comprises said detected reduction; and

means for preventing avoiding inappropriate switching to a DDD pacing mode when a condition indicative of a suspected loss of atrial detection is detected.

15. (Original) The device of claim 14, wherein the detecting circuit means further comprises an initial atrial detection sensitivity, and the suspecting means further comprises means for increasing the atrial detection sensitivity in response to said detected condition.

16. (Original) The device of claim 15, further comprising means for stopping the increase of detection sensitivity in response to a detected return of normal atrial detection.

17. (Original) The device of claim 15, further comprising means for stopping the increase of detection sensitivity in response to a detected return to atrial stimulation with a normal delay between atrial stimulation and ventricular detection.

18. (Original) The device of claim 15, wherein the suspecting means further comprises means for restoring the atrial sensitivity to said initial atrial detection sensitivity in response to a detected atrial stimulation inducing a nonpathological delay between atrial stimulation and ventricular detection.

19. (Original) The device of claim 15, further comprising means for periodically decreasing the atrial detection sensitivity in response to the atrial detection sensitivity being greater than the initial atrial detection sensitivity.

20. (Original) The device of claim 19 further comprising means for inhibiting the periodically decreasing means from decreasing the atrial detection sensitivity in response to said increasing means increasing the atrial detection sensitivity during three consecutive days.

21. (Previously Presented) An active implantable medical device, comprising:

 circuit means for detecting spontaneous atrial and ventricular events;

 circuit means for providing ventricular and atrial stimulation;

 means for automatic mode commutation; and

 means for suspecting loss of an atrial detection, comprising means for determining a sequence of events having one or more of provided stimulations and detected ventricular and

atrial events, and means for analyzing said sequence to detect a condition indicative of a suspected loss of atrial detection in order to prevent inappropriate switching to a DDD pacing mode, wherein said analyzing means further comprises means for detecting a delay between an atrial event and a ventricular detection and means for detecting a passage from an atrial detection to an atrial stimulation with a concomitant reduction of said detected delay below a given limit, wherein said condition further comprises said passage.

22. (Original) The device of claim 21, wherein the detecting circuit means further comprises an initial atrial detection sensitivity, and the suspecting means further comprises means for increasing the atrial detection sensitivity in response to said detected condition.

23. (Original) The device of claim 22, further comprising means for stopping the increase of detection sensitivity in response to a detected return of normal atrial detection.

24. (Original) The device of claim 22, further comprising means for stopping the increase of detection sensitivity in response to a detected return to atrial stimulation with a normal delay between atrial stimulation and ventricular detection.

25. (Original) The device of claim 22, wherein the suspecting means further comprises means for restoring the atrial sensitivity to said initial atrial detection sensitivity in response to a detected atrial stimulation inducing a nonpathological delay between atrial stimulation and ventricular detection.

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26. (Original) The device of claim 22, further comprising means for periodically decreasing the atrial detection sensitivity in response to the atrial detection sensitivity being greater than the initial atrial detection sensitivity.

27. (Original) The device of claim 26 further comprising means for inhibiting the periodically decreasing means from decreasing the atrial detection sensitivity in response to said increasing means increasing the atrial detection sensitivity during three consecutive days.